

(19) 世界知的所有権機関  
国際事務局(43) 国際公開日  
2003年10月23日 (23.10.2003)

PCT

(10) 国際公開番号  
WO 03/086334 A1

(51) 国際特許分類7: A61K 7/06, 45/00, A61P 17/14, C07D 271/08, 313/00, 493/04, 493/06, 493/08, 493/16

(KASAI,Yoko) [JP/JP]; 〒170-8633 東京都 豊島区 高田 3丁目 24番 1号 大正製薬株式会社内 Tokyo (JP).

(21) 国際出願番号: PCT/JP03/04884

(74) 代理人: 佐島 宗一, 外 (SATORI,Sooichi et al.); 〒170-8633 東京都 豊島区 高田 3丁目 24番 1号 大正製薬株式会社内 Tokyo (JP).

(22) 国際出願日: 2003年4月17日 (17.04.2003)

(81) 指定国 (国内): AB, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) 国際出願の言語: 日本語

(26) 国際公開の言語: 日本語

(30) 優先権データ:  
特願2002-115529 2002年4月17日 (17.04.2002) JP

(84) 指定国 (広域): ARIPO 特許 (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア特許 (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ特許 (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI 特許 (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) 出願人 (米国を除く全ての指定国について): 大正製薬株式会社 (TAISHO PHARMACEUTICAL CO.,LTD.) [JP/JP]; 〒170-8633 東京都 豊島区 高田 3丁目 24番 1号 Tokyo (JP).

添付公開書類:  
— 國際調査報告書

(72) 発明者; および

(75) 発明者/出願人 (米国についてのみ): 池田 明子 (IKEDA,Akiko) [JP/JP]; 〒170-8633 東京都 豊島区 高田 3丁目 24番 1号 大正製薬株式会社内 Tokyo (JP). 篠永 英樹 (SHINONAGA,Hideki) [JP/JP]; 〒170-8633 東京都 豊島区 高田 3丁目 24番 1号 大正製薬株式会社内 Tokyo (JP). 藤本 奈津子 (FUJIMOTO,Natsuko) [JP/JP]; 〒170-8633 東京都 豊島区 高田 3丁目 24番 1号 大正製薬株式会社内 Tokyo (JP). 菊西 陽子

2文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイドスノート」を参照。



WO 03/086334 A1

(54) Title: HAIR GROWTH TONIC

(54) 発明の名称: 育毛剤

(57) Abstract: A hair papilla cell growth promoter, a hair growth stimulant and a hair growth tonic containing a compound having an activity of inhibiting the function of WNT-5A.

(57) 要約: WNT-5A の機能阻害活性を有する化合物を含有する毛乳頭細胞増殖促進剤、発毛剤及び育毛剤。

BEST AVAILABLE COPY

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/04884

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl' A61K7/06, 45/00, A61P17/14, C07D271/08, 313/00, 493/04,  
493/06, 493/08, 493/16

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl' A61K7/06-155, 45/00, C07D271/08, 313/00, 493/02-22

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
CA (STN)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01/74164 A1 (THE GENERAL HOSPITAL CORP.), 11 October, 2001 (11.10.01), Full text	1-6, 8-10
X A	EP 606044 A1 (SANDOZ LTD.), 13 July, 1994 (13.07.94), Examples 8, 10 & JP 6-228122 A	3 1, 2, 4-6, 8-10
X A	JP 9-202781 A (Sankyo Co., Ltd.), 05 August, 1997 (05.08.97), Full text (Family: none)	3 1, 2, 4-6, 8-10

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"B" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document relating to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search  
10 July, 2003 (10.07.03)

Date of mailing of the international search report  
05 August, 2003 (05.08.03)

Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Faxsimile No.

Telephone No.

Form PCT/ISA/210 (second sheet) (July 1998)

BEST AVAILABLE COPY

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/04884

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 3687982 A (Commercial Solvents Corp.), 29 August, 1972 (29.08.72), Full text & JP 47-29384 A & FR 2128316 A1 & DE 2210563 A1	3 1, 2, 4-6, 8-10

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/04884

## Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: 7

because they relate to subject matter not required to be searched by this Authority, namely:

Claim 7 involves methods for treatment of the human body by therapy and thus relates to a subject matter which this International Searching Authority is not required, under the provisions of Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.

2.  Claims Nos.:

because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3.  Claims Nos.:

because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See extra sheet.

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest  The additional search fees were accompanied by the applicant's protest.  
 No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/04884

## Subject of the search

Claim 1 relates to a hair papilla cell growth promoter which contains as the active ingredient a compound defined by a desired property "an activity of inhibiting the function of WNT-5A", while claim 2 relates to a hair papilla cell growth promoter which contains as the active ingredient a compound defined by a desired property "inhibiting the production of WNT-5A". Although claims 1 and 2 involve any compounds having such properties, it is recognized that only parts of the claimed compounds are disclosed in the meaning as described in PCT Article 5 and thus these claims are not supported by the disclosure in the description in the meaning as described in PCT Article 6.

Although the common technical knowledge at the point of the application is taken into consideration, the scopes of the "compound having an activity of inhibiting the function of WNT-5A" and the "WNT-5A production inhibitor" cannot be specified. Thus, claims 1 and 2 also fail to fulfill the requirement of clearness as described in PCT Article 6.

Such being the case, the search was made on the relationship between the inhibition of the function of WNT-5A and the promotion of hair papilla cell growth, the stimulation of hair growth or the hair growth, the compounds specifically presented in the description, and the hair papilla cell growth promoters, hair growth stimulants and hair growth tonics containing as the active ingredient the compounds as set forth in claims 4 to 6. Claims 4 to 6 were completely examined.

The same applies to the search on claims 8 to 10.